The Effects of Nightly Gratitude Exercises on Dreaming and Sleep Quality
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Abstract
There is evidence that a positive state of gratitude can affect emotions tone and sleep quality. In this research, the effects of positive emotionality, induced via manipulation of gratitude, on dreaming and sleep quality was examined. Forty participants were drawn from General Psychology classes at Mansfield University and were randomly assigned into a group practicing nightly participant gratitude exercises (treatment) or a control condition. Each was provided with a packet containing the Pittsburgh Sleep Quality Index, the Discrete Emotions Scale, a Dream Diary Checklist, and instructions for the “Sleep Better” smart phone application. It was hypothesized that gratitude exercises would influence sleep and dream quality as well as waking emotional state. Results showed the gratitude group differed from the control group on four emotional states where they woke up feeling greater amounts of excitement, exhilaration, interest, and enjoyment/joy than did the control group. The gratitude group tended to fall asleep faster than the control group, but this difference was not statistically significant.

Introduction
The purpose of this study was to examine if gratitude would influence dreaming and sleep quality. Recent research supports the idea that emotions effect both dreaming and sleep quality. Gilchrist, Davidson, and Shakespeare-Finch (2007) examined whether personality characteristics and waking emotions related to dreaming emotions in participants over a three week period. Results showed significant positive correlations between corresponding waking and dream emotions for both positive and negative emotions. That is, people who reported experiencing positive emotions in waking life were more likely to report positive dreams, whereas those who reported negative emotions in waking life reported more negative dreams.

Yu (2007) also found interesting results regarding dreaming and emotionality. The purpose of Yu’s research was to show an overview of emotions before, during, and after dreaming sleep. Results of the study suggested that cheerful emotions (interest, exhilaration, and enjoyment) were pervasive in the collected dreams. Also, there were positive correlations between the intensities of dreams and emotions before and after sleeping.

Hypothesis
We predicted that participants who completed nightly gratitude exercises before bed would have more positive dreams and better sleep quality.

Method
Participants: 40 Mansfield University Students (age: 18 to 25, M=19.23; 18 males and 22 females)
Measures: Pittsburgh Sleep Quality Index (PSQI), 15 Discrete Emotions Scale, Sleep Diary, Sleep Better Application.
Procedure: Participants were recruited from Introduction to Psychology Classes. All participants completed an informed consent form prior to taking part in the study. Participants were randomly assigned into the experimental and control groups. The participants first took the pre test of the PSQI. Each night before the participants went to bed, they had to complete the 15 Discrete Emotions Scale. Participants in the control group had to write down 5 states in the U.S. on a lined piece of paper while participants in the experimental group had to record 5 positive events that occurred in the past 24 hours. Right before going to sleep, each participant had to start the Sleep Better App to record their sleep efficiency. When the participants woke up each morning, they would fill out the 15 Discrete Emotions Scale again and send the researchers a screen shot of their sleep efficiency for the night. The post test for the study was the PSQI.

Results
Independent t-tests and chi-square tests were used to test whether random assignment procedures successfully produced equivalent groups. Results of these tests revealed that the experimental and control groups were statistically equivalent on all demographic and control except for sleep quality, dream rate, and several emotions including: jealousy, anxiety, distress/sadness, anger, disgust, contempt, fear, shame, shyness, and guilt. There were four positive emotions, measured by the 15 Discrete Emotions Scale that were significantly different between the experimental and control groups: excitement, exhilaration, interest, and enjoyment/joy. Also, the experimental group fell asleep about 40 minutes faster than the control group.

Discussion
The results of the study showed no significant differences between the experimental and control group for the types of dreams the groups produced or their overall sleep quality. However, when participants reported five positive things that happened during the day before they went to bed (experimental group), they woke up in a more positive mood than participants in the control group. People in the experimental group reported more positive feelings of exhilaration, excitement, enjoyment/joy, and interest than participants in the control group. These results support Yu’s (2007) prior research, where the same exact four emotions were reported. Results also showed a marginally significant effect (p<.06) for sleep latency, such that participants in the experimental group fell asleep 40 minutes faster, on average.

Conclusion
Although the results did not completely support our hypotheses, our findings suggest that having a more positive mood before going to bed each night can improve a person’s mood when he/she wakes up in the morning. If the study was redone and outliers removed, there is a possibility the p-value for sleep latency may be <.05, suggesting that reporting more positive emotions could improve sleep quality in participants.